

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 November 2004 (04.11.2004)

PCT

(10) International Publication Number
WO 2004/095776 A2

(51) International Patent Classification⁷: **H04L 12/28**

(21) International Application Number:
PCT/JP2004/004991

(22) International Filing Date: 7 April 2004 (07.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-116838 22 April 2003 (22.04.2003) JP

(71) Applicant (for all designated States except US): **MAT-SUSHITA ELECTRIC INDUSTRIAL CO., LTD.** [JP/JP]; 1006, Oaza Kadoma, Kadoma-shi, Osaka 5718501 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **NIHO, Tsutomu.** **SASAI, Hiroyuki.**

(74) Agent: **OGASAWARA, Shiro;** Daisan-Longev' Bldg., 3-11, Enokicho, Suita-shi, Osaka 5640053 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

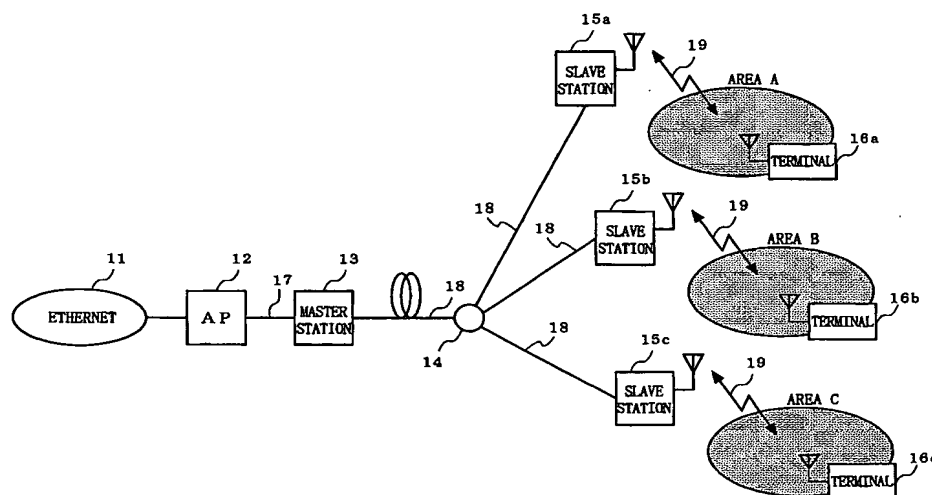
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: WIRELESS ACCESS SYSTEM AND METHOD



(57) Abstract: A wireless access system and method are provided by which the wireless communications area covered by a single access point is increased while maintaining the maintainability of the access point, minimizing an increase in system cost, and avoiding the hidden terminal problem. An access point (12) and terminals (16a to 16c) are connected via a master station (13), an optical multiplexing/demultiplexing section (14), and slave stations (15a to 15c). A downstream signal to the terminals (16a to 16c) from the access point (12) is transmitted such that the master station (13) outputs the downstream signal to each of the slave stations (15a to 15c) in a distributed manner through the optical multiplexing/demultiplexing section (14). An upstream signal to the access point (12) from any one of the terminals (for example, 16a) is transmitted to the master station (13) through a slave station (for example, 15a) and the optical multiplexing/demultiplexing section (14), and also sent to all other slave stations (for example, 15b and 15c) through the master station (13) or the optical multiplexing/demultiplexing section (14).

WO 2004/095776 A2